

EFFECTIVENESS AND SAFETY OF THE EARLY SWITCH FROM INTRAVENOUS TO ORAL ANTIBIOTICS TREATMENT IN THE PNEUMOLOGY WARD

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Background

The intravenous administration of antibiotics remains the route of choice at patient admission. Although the early oral-switch once the clinical stability has been achieved has demonstrated to be effective and safe in other settings, its implementation in the pulmonology ward has not been studied.

Purpose

To assess the effectiveness and safety of an early-oral antimicrobial switch protocol in the pulmonology ward.

Material and methods

Quasi-experimental study performed in a 400-bed tertiary hospital. The protocol was implemented in March 2018 and therefore two groups were identified: intervention (March-August 2018) and control group (March-August 2017). All patients admitted to the pulmonology ward treated with intravenous amoxicillin/clavulanate, fluoroquinolones, trimethoprim-sulfamethoxazole, clindamycin and azithromycin were included.

Results

A total of 200 patients were included. Main clinical outcomes are summarized in table 1.

	Intervention group (n=100)	Control group (n=100)	P value
Age, years	67.2 (14.3)	69.1 (13.0)	0.341
Male, n (%)	63 (63.0)	73 (73.0)	0.130
Comorbidities, n (%)			
Hypertension	48 (48.0)	56 (56.0)	0.258
Diabetes	25 (25.0)	26 (26.0)	0.871
Cardiopathy	43 (43.0)	39 (39.0)	0.565
Cardiopulmonar disease (COPD)	62 (62.0)	66 (66.0)	0.556
Source of infection, n (%)			0.285
Pneumonia	19 (19.0)	18 (18.0)	
Acute COPD exacerbation	48 (48.0)	55 (55.0)	
Acute asthma exacerbation	22 (22.0)	15 (15.0)	
Pulmonary abscess	11 (11.0)	9 (9.0)	
Others	0 (0.0)	3 (3.0)	
Antibiotic treatment			
Amoxicillin/clavulanate	52 (52.0)	47 (47.0)	0.330
Fluoroquinolones	41 (41.0)	37 (37.0)	
Trimethoprim-sulfamethoxazole	4 (4.0)	7 (7.0)	
Clindamycin	1 (1.0)	5 (5.0)	
Azithromycin	2 (2.0)	1 (1.0)	
Oral-switch, n (%)	97 (97.0)	58 (58.0)	0.000
Days until oral switch	3.4 (2.7)	4.8 (2.3)	0.001
Days of intravenous treatment	3.6 (2.7)	6.0 (3.9)	0.000
Total days of treatment	9.6 (4.7)	8.9 (4.0)	0.234
Length of stay, days	12.9 (20.3)	15.9 (18.6)	0.282
Days of catheterization	9.0 (7.0)	15.9 (22.5)	0.004
Readmission in 1 month, n (%)	20/98 (20.4)	30/95 (31.6)	0.077
Catheter-related bloodstream infection, n (%)	0 (0.0)	2 (2.0)	0.155
Thrombophlebitis, n (%)	6 (6.0)	9 (9.0)	0.421
Treatment failure, n (%)	11 (11.0)	15 (15.0)	0.529

Conclusion

The implementation of an early-oral antimicrobial switch protocol in the pulmonology ward was effective and safe. The early-oral antibiotic switch could help to diminish the days of catheterization and the potential related adverse outcomes, with a shortening in the length of stay.



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